Dual-Mode Flash Storage Exchanger that Transfers Flash-Card Data to a Removable USB Flash Key-Drive With or Without a PC Host

Abstract

A flash-card exchanger has two modes of operation. When a host personal computer (PC) is connected to a Universal-Serial-Bus (USB) connector, the flash-card exchanger operates in a card reader mode, allowing the host to read data from removable flash-memory cards inserted into connector slots of the flash-card exchanger. When the host PC is not connected, a USB flash-memory thumb or key-chain drive can be inserted into a second USB connector. A USB dual-mode microcontroller acts as a USB host, reading data from the removable flash-memory card and writing the data to the USB-memory key drive using USB packets. Since the USB-memory key drive is small and removable, the user can upgrade to larger storage capacities by plugging in a larger-capacity USB-memory key drive. A flash-exchanger program executing on the USB dual-mode microcontroller copies data from an

input-output bus and generates USB packets to the USB-memory

key drive.